flabellifer Linn. and *Phoenix rupicola* T. And. (Davis 1969, Davis & Basu 1969, Basu 1972).

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EULOPHIA HIRSUTA JOSEPH ET VAJRAVELU (ORCHIDACEAE)— A NEW SPECIES FROM SOUTH INDIA

Eulophia hirsuta Joseph et Vajravelu species novum

Herba, tuberosa terrestris, absque foliis tempore florendi, floribus luteis subsecundis racemo gracili hirsuto. Inflorescentia hirsuta ab aliis speciebus *Eulophiae* clare distinguit.

Vajravelu 46201 A *Holotypus* CNH, Howrah; *Vajravelu* 46201 B *Isotypus* Rapinat Herbarium, Tiruchirapalli; *Vajravelu* 46201 C *Isotypus* Kanjilal Herbarium, Shillong; *Vajravelu* 46201 D-J *Isotypi* et *Vajravelu* 46756 A & B *Paratypi* MH Coimbatore.

Eulophia hirsuta Joseph et Vajravelu species novum

A terrestrial tuberous herb, without leaves at the time of flowering, with erect, slender, hirsute racemes of subsecund yellow flowers. The hirsute inflorescence clearly distinguishes this species from others of *Eulophia*.

Vajravelu 46201 A *Holotype* CNH, Howrah; *Vajravelu* 46201 B *Isotype* Rapinat Herbarium, Tiruchirapalli; *Vajravelu* 46201 C *Isotype* Kanjilal Herbarium, Shillong; *Vajravelu* 46201 D-J *Isotypes* and *Vajravelu* 46756 A & B *Paratypes* MH, Coimbatore.

Eulophia hirsuta Jos. et Vajr. is a quite distinct species of the genus not closely allied to any known species, nor comparable to any specimen available either in Madras Herbarium or Central National Herbarium. Nevertheless in general habit it comes nearer to *E. ramentacea* Lindl. ex Wt. (*E. pratensis* Lindl.) of South, from which it can easily be distinguished in the absence of conical spur and in the presence of hirsute inflorescence.

Young shoots appearing on new tubers during monsoon (June-July) and disappearing during winter (December-January) before flowering. *Young tubers* globose, ± 1.5 cm across, white, with a short shoot of three radical leaves and with one or two reduced sheaths below; *leaves* grass like 7.0-18.2 × 0.3-1.5 cm, linear, acuminate, prominently 3-nerved, long sheathing towards the base. Mature tubers without leaves, dorsoventrally compressed and elongating at tips presenting often a forked or a horned appearance 1.5-2.6 cm long along the side and 1.4-2.5 cm broad just below the bifurcation and the inflorescence produced from the

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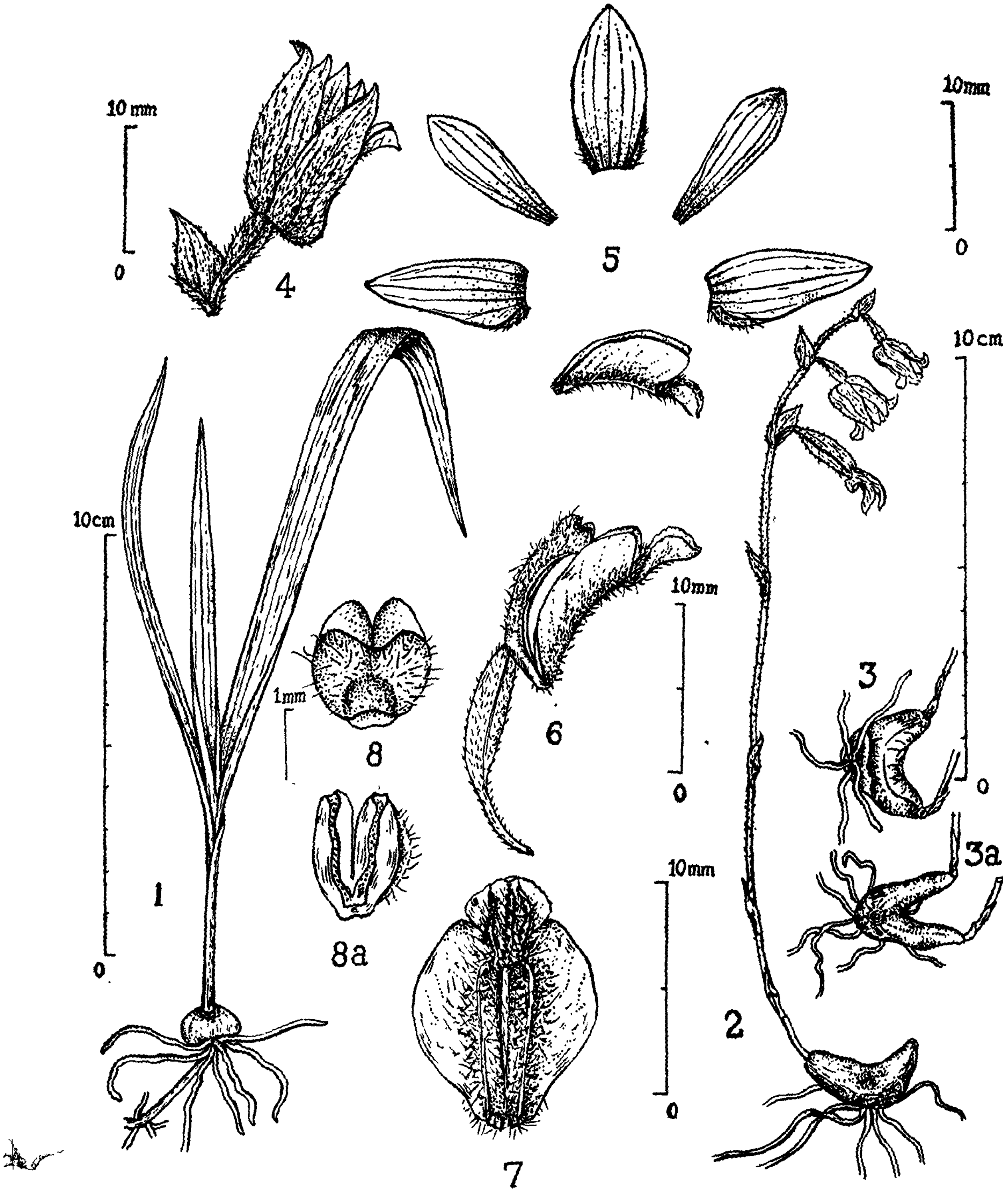

Eulophia hirsuta sp. nov. Joseph et Vajravelu

Figs. 1-8a: 1. Habit (vegetative). 2. Habit (flowering). 3 & 3a. Tubers. 4. Flower with bract. 5. Floral parts. 6. Ovary with column & lip (side view). 7. Lip (spread out, dorsal view). 8. Anther (dorsal view). 8a. Anther cells (ventral view).

tips. *Racemes* 12.0-22.0 cm high, 2-5 flowered, shortly hirsute all over; *scape* slender 1.5-6.0 cm long with a few sterile bracts. *Sterile bracts* 9.0-13.0 × 3.0-5.0 mm, tubular, and sheathing at base, lanceolate-ovate, acuminate, hirsute. *Flowers* 1.9-2.4 cm long, bright yellow, more or less drooping, lax, sub-secund shortly hirsute all over, restricted towards the apex, distinctly pedicellate, bracteate. *Floral bracts* 7.0-10.0 × 4.0-6.0 mm ovate, shortly acuminate, not sheathing, more densely hirsute without than within, prominently 7-nerved; *dorsal sepals* 12.0-14.5 × 5.0-6.0 mm suberect, hooded, oblong-ovate, more hirsute without and glabrescent within, 5-nerved; *lateral sepals* 13.0-14.5 × 5.0-8.0 mm attached to the sides of the short foot forming a more or less gibbous mentum, more hirsute without than within, 5-nerved obliquely ovate-oblong, obtuse-subacute; *lateral petals* 11.0-14.5 × 3.0-4.0 mm much narrower than sepals, oblanceolate, subacute, 5-nerved, hirsute outside and glabrous within; lip 11.0-14.0 × 7.0-9.0 mm sessile, trilobed, little shorter and much broader than petals, parallel to the column, immovably attached to the lip of the foot, prominently thickened and more hirsute along the median zone within and without; *side lobes* erect, 8.5-10.0 × 2.5-3.0 mm much longer than the midlobe, sparsely hairy or glabrescent both within and without, narrowly auricular; *midlobe* 4.0 × 3.0-4.0 mm suboricular to ovate, reflexed, obtuse at apex, 3-crested lamellate and hirsute on the dorsal side; *column* 8.0-9.0 × 1.5-20 mm arcuate, hirsute on the dorsal surface, auriculately winged at tip, prolonged at the base into a short foot (± 3 mm long); *anthers* 2 celled, terminal; anther cap ± 1.75 thickened on the dorsal cell and hirsute; *pollinia* in granular mass; *ovary* with pedicel 9.0-15.0 × 1.75-3.0 mm densely hirsute; *young fruits* 1.1-1.6 × 0.4-0.5 cm drooping, hirsute with marscesant perianth. (Figs. 1-8a).

Flowering: Dec.-Feb.

Vajravelu 46201 A, designated as *holotype* and deposited in CNH, Howrah; *Vajravelu* 46201 B *isotype* deposited in Rapinat Herbarium, Tiruchirapalli; *Vajravelu* 46201 C *isotype* deposited in Kanjilal Herbarium, BSI, Shillong; *Vajravelu* 46201 D-J *isotypes* and *Vajravelu* 46756 A & B *paratypes* deposited in MH, Coimbatore; collected on 5-3-76 from Karasuryamalai-Anamada area, Nemmara division, Palghat District, Kerala at an altitude of 1150 m between E. Long, 76° 45′-76° 50′ and N. Lat. 10° 30′-10° 35′.

Vajravelu 46756 has been collected during October 1975 from BSI garden raised from the original material.

It is an elegant orchid of yellow flowers, quite common among grasses, in open hill slopes. In the absence of leaves during flowering, a few species of *Eulophia,* species of *Nervilia* and *Pachystoma senils* are similar. But *Nervilia* sp. can be easily separated by presence of broad, orbicular, solitary leaf, while others produce grass like leaves. Monotypic genus *Pachystoma* can be distinguished from *Eulophia* species by the possession of eight pollinia in two groups instead of two; besides *Pachystoma* has 1 or 2 leaves only while *Eulophia* produces more than three leaves; column in *Pachystoma* is footless while *Eulophia* possesses column with a short or a long distinct foot and the lateral sepals uniting with it to form a mentum or a sac.

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